

TEMPORARY DRAINAGE PROPOSAL



Temporary Drainage Proposal for
Proposed Temporary Public Vehicle Park with Electric Vehicle
Charging Device for a Period of 3 Years at
Lots 591(Part), 592(Part), 593(Part) and 618(Part) in D.D. 122,
Ping Shan, Yuen Long, New Territories
(A/YL-PS/734)

Issue 1 (October 2024)

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1. Introduction

This report presents the temporary drainage proposal for Proposed Temporary Public Vehicle Park with Electric Vehicle Charging Device for a Period of 3 Years at Lots 591(Part), 592(Part), 593(Part) and 618(Part) in D.D. 122, Ping Shan, Yuen Long, New Territories. For site location, please refer to **Appendix A**.

1.1. Objectives of the Report

This report shall be prepared to include the following:

- Identify the potential drainage impact assessment from the proposed application site
- Recommend and implement all necessary measures to mitigate adverse drainage impacts arising from the application site

1.2. Report Structure

The report contains the following sections:

- Section 1 on Introduction;
- Section 2 on Development Proposal;
- Section 3 on Assessment Methodology;
- Section 4 on Potential Drainage Impact; and /
- Section 5 on Conclusion

2. Development Proposal

2.1. Existing Site Conditions

The application site is located in Ping Shan, Yuen Long, New Territories, with a total area of around 2970 m^2 . The existing ground level varying between + 9.65 mPD and + 8.75 mPD. The site layout plan is provided in **Appendix B**.

The applied development is for temporary place of recreation, sport or culture (hobby farm). The type of application is the temporary use/development in rural areas for a period of 3 years. The application site is located at Lots 591(Part), 592(Part), 593(Part) and 618(Part) in D.D. 122, Ping Shan, Yuen Long, New Territories.

The application site is less than 1 ha in size and neither fall within flood prone areas such as lowlying areas and flooding blackspots nor involve pond filling and substantial earth filling, so it is regarded as simple site. There is an existing village drain in vicinity of the site that can be discharged to, the location and photos of the existing drain is shown in **Appendix C**.

3. Assessment Methodology

3.1. Calculation Methodology for Runoff

According to **Section 6.6.2 of the Storm Drainage Manual (SDM)**, an "Urban Drainage Branch System" refers to a network of interconnected drains that collect rainwater runoff from an urban area and transport it to a trunk drain, river, or sea. In simpler terms, the largest pipe size or the equivalent diameter in case of a box culvert in a branch system will normally be less than 1.8m.

Referring to SDM, since the proposed U-channels have dimensions smaller than 1.8m, the drainage system would be classified as an urban drainage branch. It is recommended to design the system with a return period of 50 years to ensure its adequacy in managing stormwater drainage.

To calculate the peak instantaneous runoff values before and after the development, the Rational Method with recommended physical parameters including runoff coefficient (C) and storm constants for different return periods are adopted referred to the SDM.

The Rational Method is adopted for hydraulic analysis and the peak runoff is calculated based on the following equation:

$$Q_p = 0.278 Ci A$$

where Q_p = Peak Runoff, m^3/s

C = Runoff Coefficient

i = Rainfall Intensity, mm/hr

A = Catchment Area, km^2

The total area of the site will account for $2970 m^2$. The runoff coefficient of 1 is assumed.

Based on the storm constants for the 50-year return period recommended in the SDM, the appropriate rainfall intensities (i) are calculated as detailed in **Appendix E**.

3.2. Calculation Methodology for Capacity Checking

Since the catchment areas are less than 1ha, surface U-channels are recommended to be constructed to collect the stormwater runoff within the site. The collected stormwater should finally be diverted to the existing drain in vicinity of the site via the proposed U-channels and pipe.

For the worst-case scenario, bad condition of concrete u channel is assumed for the Manning's roughness coefficient i.e coefficient value is 0.016 for calculating capacities of concrete U-channel using Manning's Equation. The recommended roughness values k_s for concrete channels with float finish is 3.3 mm under normal condition.

Manning's Equation for calculating the channel and pipe capacities is adopted for this analysis:

$$V = \frac{R^{2/3} S^{1/2}}{n}$$

where V = mean velocity, m/s

S = slope of the total energy line

n = Manning's roughness coefficient

R = hydraulic radius, m

3.3. Summary of Assessment Assumptions

The assumptions of the Drainage Proposal are summarized below for ease of reference:

- 50 years return period is adopted;
- Runoff coefficient of 1 for the paved area is assumed;
- Storm constants for 50 years return periods of North District Area
- Manning's roughness coefficient of 0.016 for the proposed concrete U-channels and concrete pipe are adopted; and
- Roughness values k_s of 3.3 mm for concrete channels with float finish is adopted.

4. Potential Drainage Impact

4.1. Change in Drainage Characteristics

There is no existing drainage provision inside the current site, the collected stormwater was discharged as surface runoff leading to the existing U channel near the site before the development.

The total area of the site will account for 2970 m^2 . There are 7 catchment areas in the design, catchment area 1 (CA1) is 190 m^2 , catchment area 2 (CA2) is 180 m^2 , catchment area 3 (CA3) is 455 m^2 , catchment area 4 (CA4) is 530 m^2 , catchment area 5 (CA5) is 500 m^2 , catchment area 6 (CA6) is 180 m^2 and catchment area 7 (CA7) is 895 m^2 .

The adjacent sites have adequate drainage facilities and no record of flooding for the application site has been found. To manage the stormwater flows after developing the site, this drainage proposal detailed the proposed drainage system consisting of a set of U-channels for diverting stormwater flows to avoid causing flooding to the site.

Since there are no changes in drainage characteristics, it is considered that the drainage discharge from the application site will not cause adverse impact to the entire downstream drainage system.

4.2. Potential Drainage Impact

The runoff from the application site is proposed to be collected by U-channels along the boundary of the low sides and discharged to the terminate catchpit with sand trap, and through 300mm pipe eventually lead to the existing village drain in vicinity of the site. The details of the proposed drainage works are illustrated in **Appendix D**.

For conservative approach, the critical scenario is considered for collecting all the flow in the catchment area leading to the 300 mm U-channel. The design calculations of the proposed U- channels are calculated as detailed in **Appendix E**. Typical designs of the U-channels and Catchpits are shown in **Appendix F**.

The design runoff arising from the proposed application site is to be discharged into the proposed 300 mm U-channel and 300mm pipe. The calculations is summarized in **Table 1**

U -channel	Catchment Area (m²)	Proposed U-channel Size (mm)	Estimated Peak Runoff (m³/s)	Capacity (%)
UC1	190	300	0.012	15%
UC2	370 ¹	300	0.024	30%
UC3	825 ²	300	0.052	39%
UC4	530	300	0.033	24%
UC5	500	300	0.030	20%
UC6	720 ³	300	0.043	45%
UC7	895	300	0.055	36%

Table 1 Summary of Estimated Runoffs and Proposed U-channel Size

¹Accumulated catchment area of CA1 and CA2

²Accumulated catchment area of CA1, CA2 and CA3

³Accumulated catchment area of CA5 and CA6

5. Conclusion

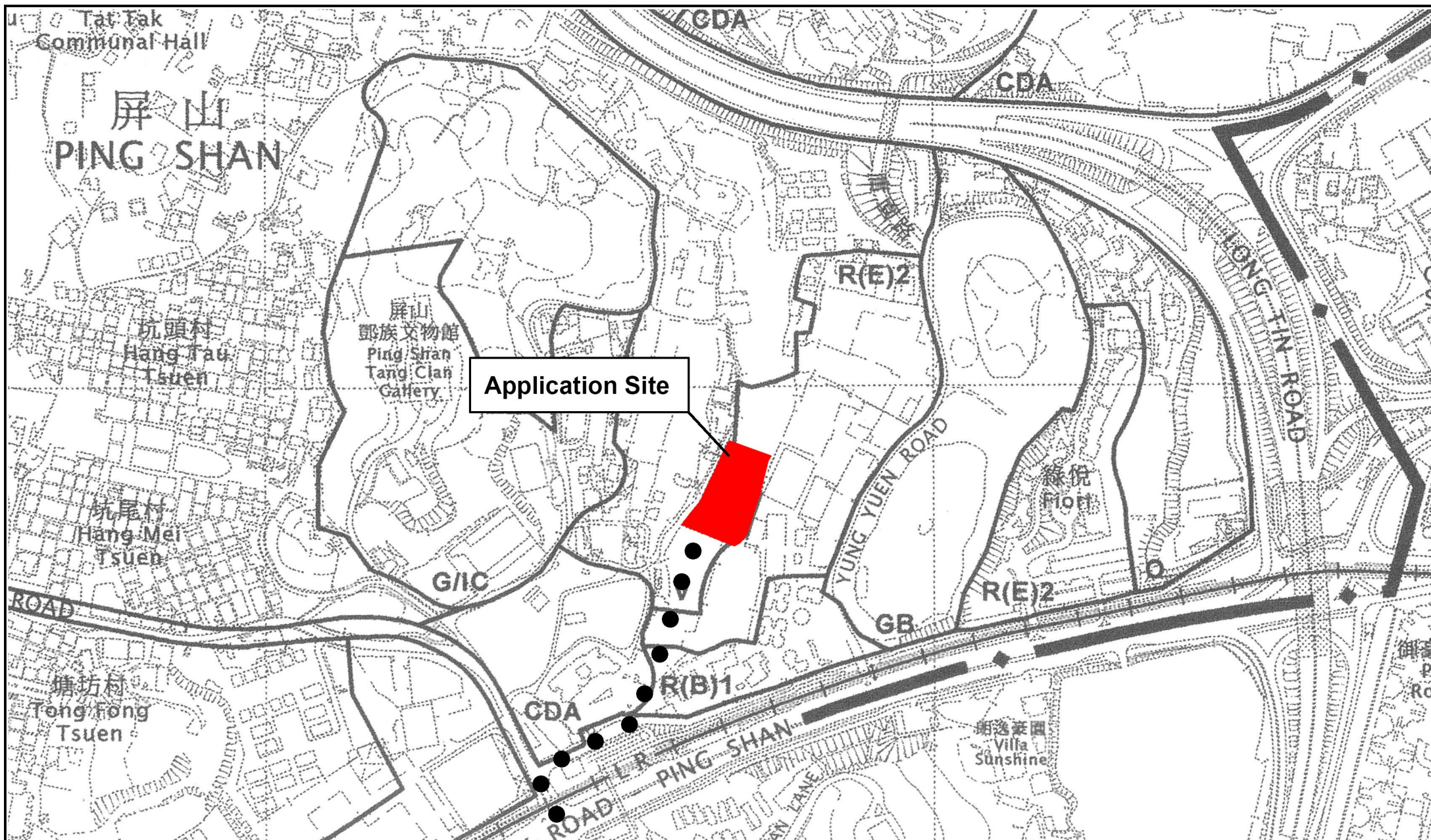
A temporary drainage proposal has been designed for proposed temporary public vehicle park with electric vehicle charging device for a period of 3 years at Lots 591(Part), 592(Part), 593(Part) and 618(Part) in D.D. 122, Ping Shan, Yuen Long, New Territories.

In the design calculation, 300 mm U-channel and 300mm pipe found adequate and proposed to convey at the peak runoff under the 50 years return period from the application site.

The adjacent sites have adequate drainage facilities, and no record of flooding has been found. The stormwater collected from this application site is proposed to be discharged to the existing village drain in vicinity of the site without overloading the existing drainage system.

To manage the stormwater flows after developing the site, this drainage proposal detailed the proposed drainage system consisting of a set of U-channels, pipe and catchpits diverting stormwater flows to avoid causing flooding to the site.

APPENDIX A

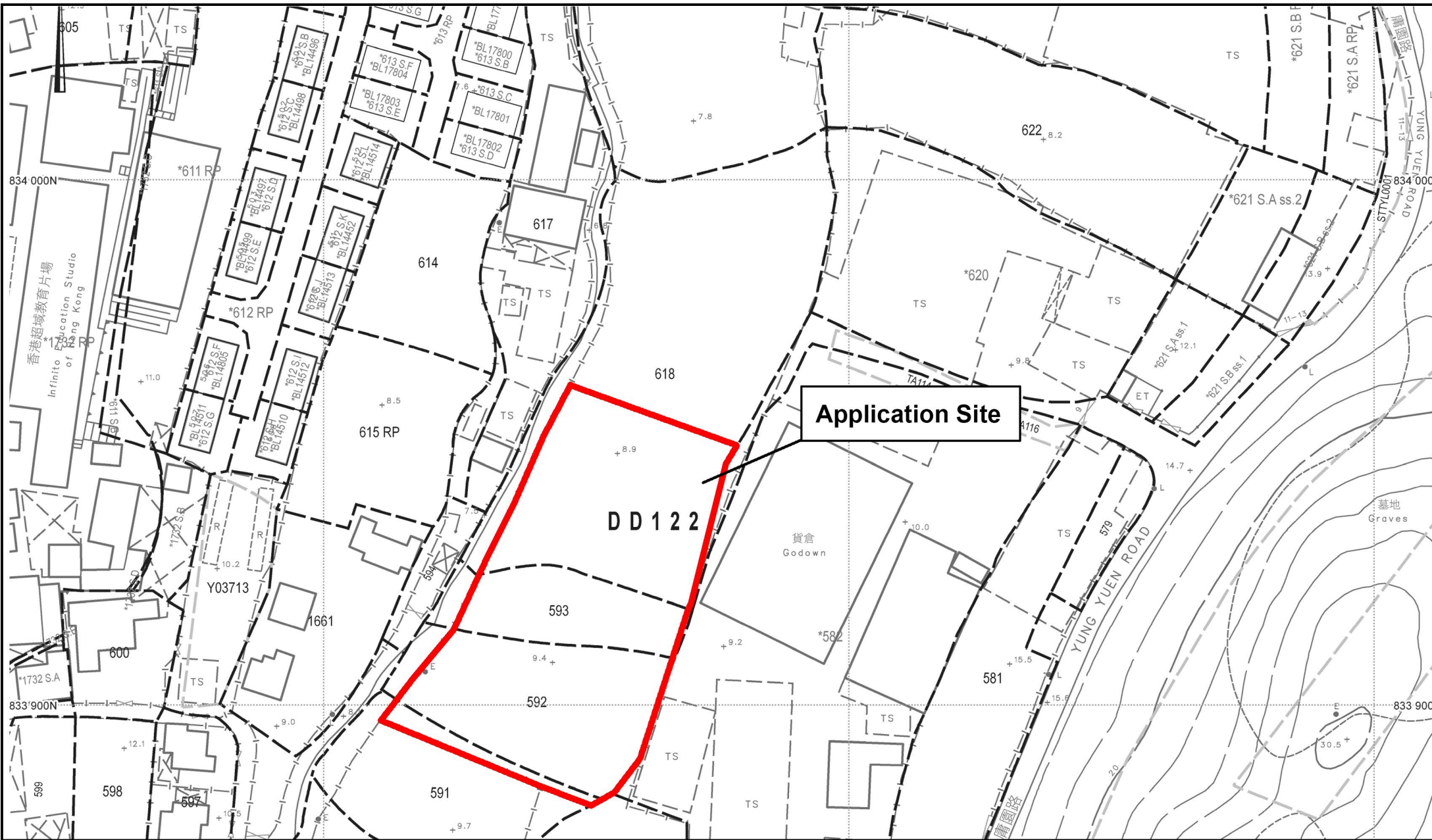


Project 項目名稱:
 Proposed Temporary Public Vehicle Park with Electric Charging Device for a Period of 3 Years at Lots 591(Part), 592(Part), 593(Part) and 618(Part) in D.D. 122, Ping Shan, Yuen Long, N.T.

Drawing Title 圖紙標題:
 Location Plan

Drawing No. 圖號:
 20240917

Remarks 備註:
 ●●● Vehicular access leading from Castle Peak Road - Ping Shan



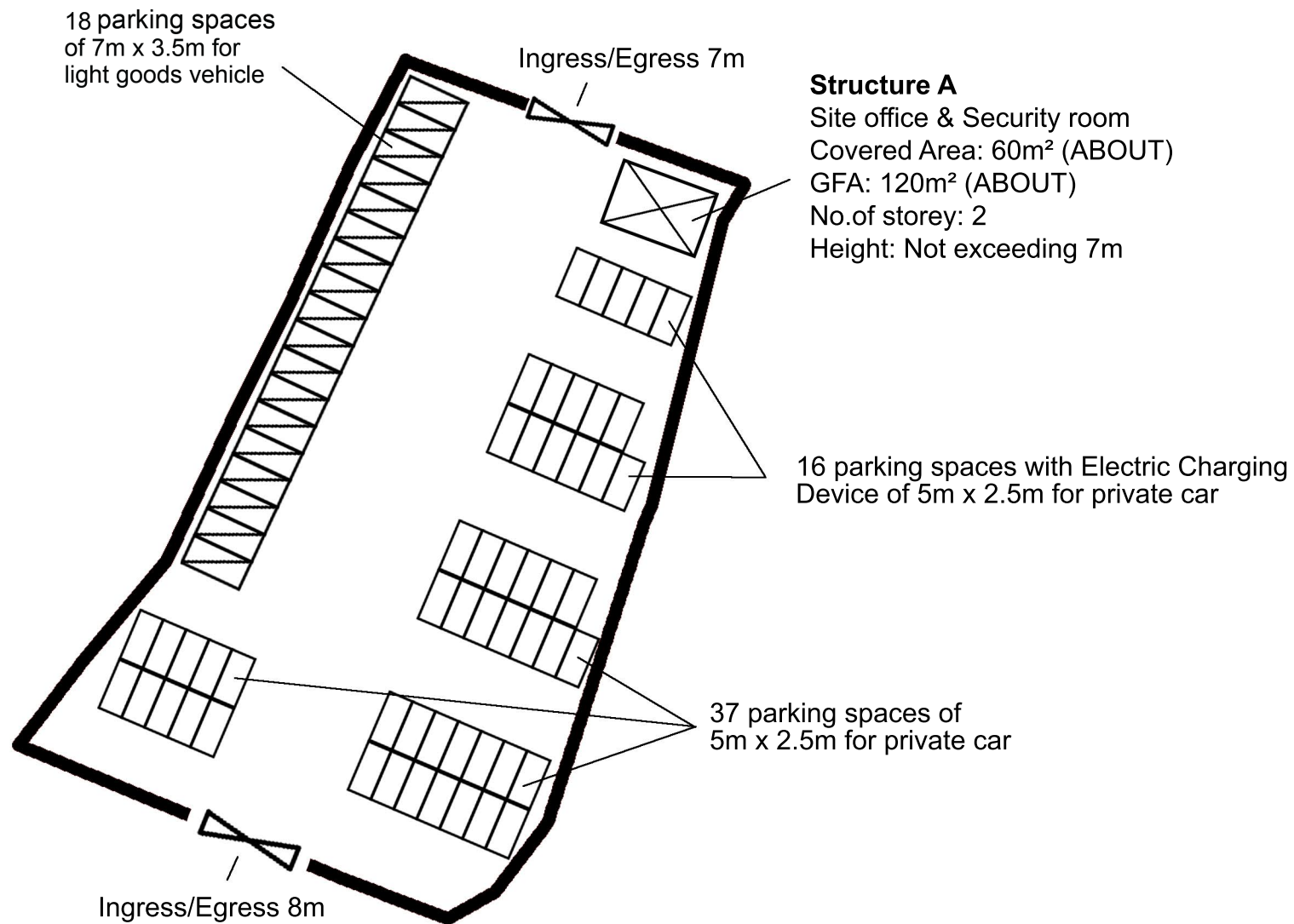
Project 項目名稱:
Proposed Temporary Public Vehicle Park with Electric Charging Device for a Period of 3 Years at Lots 591(Part), 592(Part), 593(Part) and 618(Part) in D.D. 122, Ping Shan, Yuen Long, N.T.

Drawing Title 圖紙標題:
Site Plan

Drawing No. 圖號:
20240917

Remarks 備註:

APPENDIX B



Structure A

Site office & Security room
 Covered Area: 60m² (ABOUT)
 GFA: 120m² (ABOUT)
 No. of storey: 2
 Height: Not exceeding 7m

18 parking spaces
 of 7m x 3.5m for
 light goods vehicle

Ingress/Egress 7m

16 parking spaces with Electric Charging
 Device of 5m x 2.5m for private car

37 parking spaces of
 5m x 2.5m for private car

Ingress/Egress 8m



Project 項目名稱:

Proposed Temporary Public Vehicle Park with Electric
 Charging Device for a Period of 3 Years at Lots 591(Part),
 592(Part), 593(Part) and 618(Part) in D.D. 122, Ping Shan,
 Yuen Long, N.T.

Drawing Title 圖紙標題:

Site Plan

Drawing No. 圖號:

Remarks 備註:



Structure

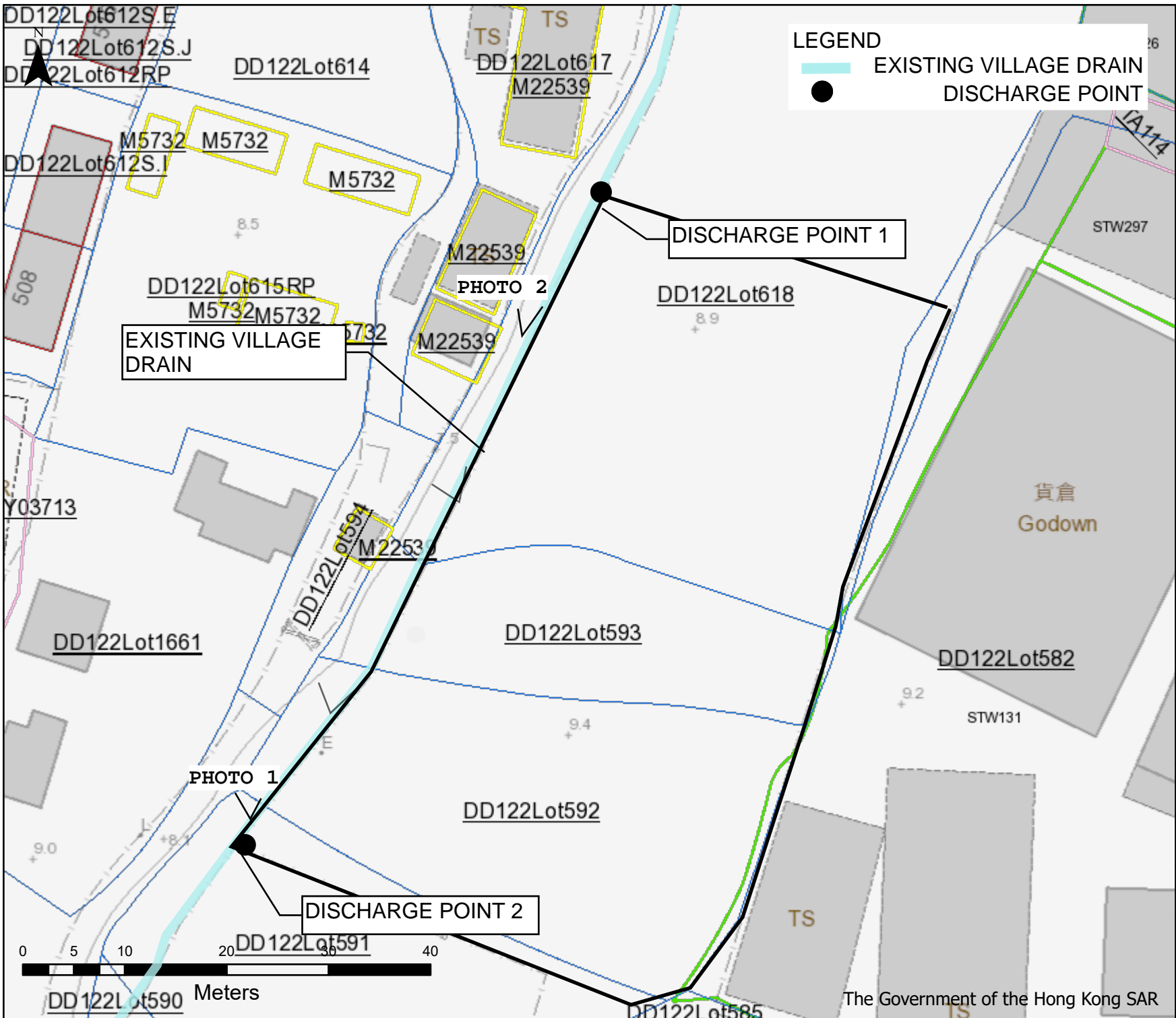


Light goods vehicle



Private car

APPENDIX C



SITE PLAN

PROJECT :
 TEMPORARY DRAINAGE PROPOSAL FOR PROPOSED TEMPORARY PUBLIC VEHICLE PARK WITH ELECTRIC VEHICLE CHARGING DEVICE FOR A PERIOD OF 3 YEARS AT LOTS 591(PART), 592 (PART), 593(PART) AND 618(PART) IN D.D. 122, PING SHAN, YUEN LONG, NEW TERRORIES

DRAWING TITLE:
 EXISTING VILLAGE DRAINING

ISSUE 1

Scale 1:500

Date 20/10/2024





PHOTO 1



PHOTO 2

APPENDIX D

SITE PLAN

PROJECT :

APPLICATION FOR PROPOSED TEMPORARY PUBLIC VEHICLE PARK WITH ELECTRIC VEHICLE CHARGING DEVICE FOR A PERIOD OF 3 YEARS AT LOTS 591(PART), 592(PART), 593(PART) AND 618(PART) IN D.D. 122, PING SHAN, YUEN LONG, NEW TERRITORIES

DRAWING TITLE:

PROPOSED DRAINAGE WORKS

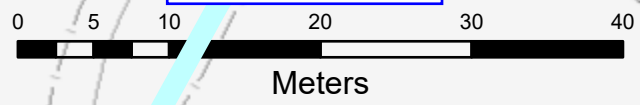
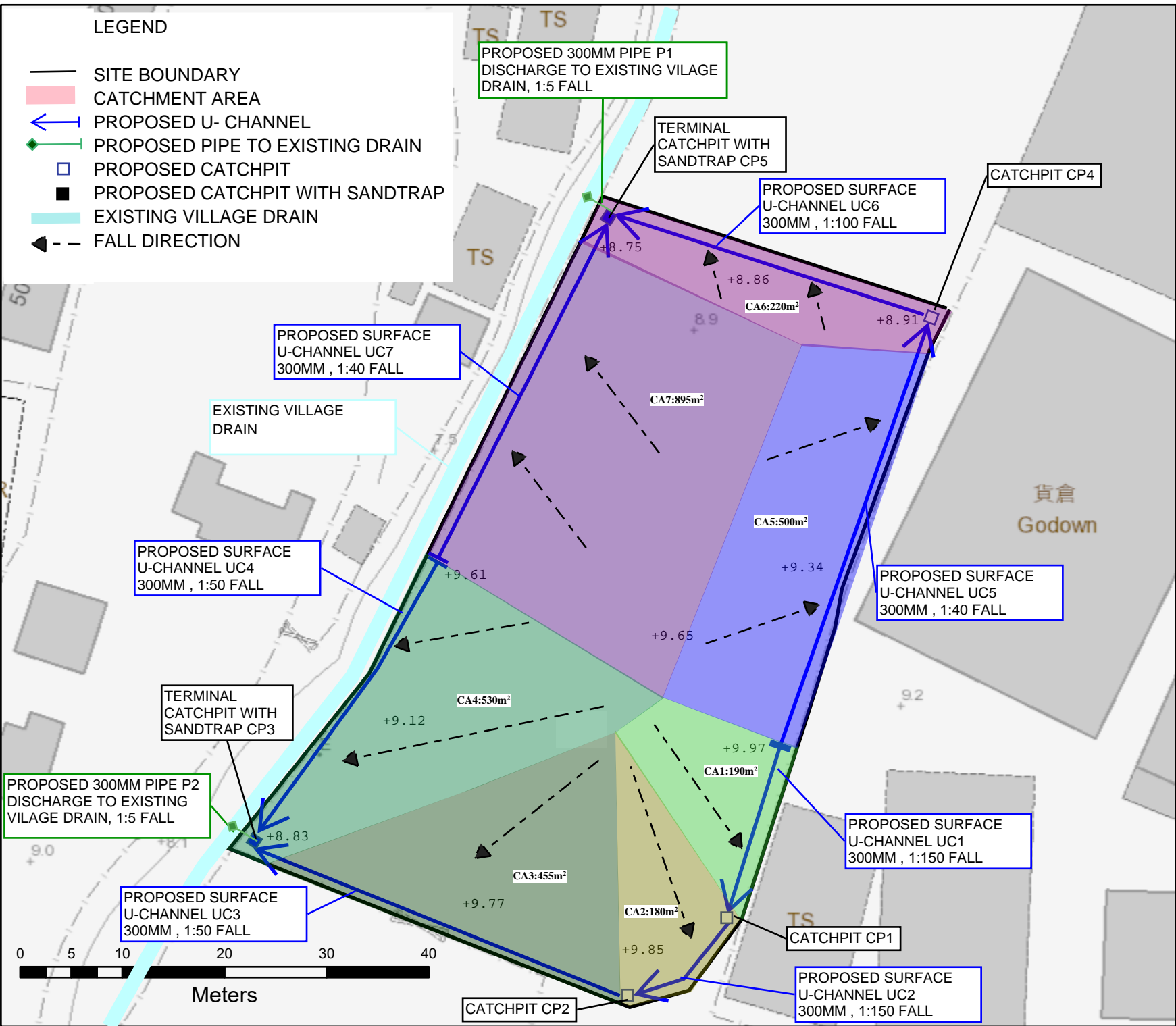
ISSUE 1

Scale 1:500

Date 20/10/2024

LEGEND

- SITE BOUNDARY
- █ CATCHMENT AREA
- ← PROPOSED U- CHANNEL
- ◆ PROPOSED PIPE TO EXISTING DRAIN
- PROPOSED CATCHPIT
- PROPOSED CATCHPIT WITH SANDTRAP
- EXISTING VILLAGE DRAIN
- ▲ -- FALL DIRECTION



APPENDIX E

Calculation Sheet		Date:	2024-10-24
Project Title:		Project No.:	YL-PS-734
APPLICATION FOR PROPOSED TEMPORARY PUBLIC VEHICLE PARK WITH ELECTRIC VEHICLE CHARGING DEVICE FOR A PERIOD OF 3 YEARS AT LOTS 591(PART), 592(PART), 593(PART) AND 618(PART) IN D.D. 122, PING SHAN, YUEN LONG, NEW TERRITORIES		Designed by:	RF
		Appendix:	E
		Sheet No.:	1

Design for Proposed U Channel for Development Area

Catchpit No.		Catchment				Level				U Channel								Manning's Equation								
From (U/S)	To (D/S)	Incr. Area (m ²)	Accum. Area (m ²)	Runoff Coef. C	Ave. Slope / 100m	U/S G.L. (mPD)	D/S G.L. (mPD)	U/S I.L. (mPD)	D/S I.L. (mPD)	Material	Width (mm)	Depth (mm)	Lgth (m)	Grad. (1 in)	U Channel Area A (m2)	Wetted Peri.P (mm)	Hyd. Radius R (mm)	Mng's Coef. n	Vel. V at Full Bore (m/s)	Cap. Q _o (m ³ /s)	Velocity Check	Time of Conc. t _c (min)	Rainfall Intensity i (mm/hr)	Runoff Q (m ³ /s)	Capacity % (Q/Q _o)	Capacity Check
-	CP1	190	190	1	1	9.97	9.91	9.77	9.65	CO	300	200	17.3	150	0.07	0.57	0.11	0.016	1.203	0.079	OK	1.481	229.01	0.012	15%	OK
CP1	CP2	180	370	1	1	9.91	9.85	9.60	9.52	CO	300	200	13.3	150	0.07	0.57	0.11	0.016	1.203	0.079	OK	1.497	228.89	0.024	30%	OK
CP2	CP3	455	825	1	1	9.85	8.83	9.41	8.60	CO	300	200	40.4	50	0.07	0.57	0.11	0.016	2.083	0.136	OK	1.507	228.82	0.052	39%	OK
-	CP3	530	530	1	1	9.61	8.83	9.41	8.76	CO	300	200	32.5	50	0.07	0.57	0.11	0.016	2.083	0.136	OK	2.511	222.06	0.033	24%	OK
-	CP4	500	500	1	1	9.97	8.91	9.77	8.68	CO	300	200	43.7	40	0.07	0.57	0.11	0.016	2.329	0.152	OK	3.395	216.54	0.030	20%	OK
CP4	CP5	220	720	1	1	8.91	8.75	8.68	8.31	CO	300	200	36.6	100	0.07	0.57	0.11	0.016	1.473	0.096	OK	3.422	216.38	0.043	45%	OK
-	CP5	895	895	1	1	9.61	8.75	9.41	8.48	CO	300	200	37.2	40	0.07	0.57	0.11	0.016	2.329	0.152	OK	2.727	220.67	0.055	36%	OK

Formulae:

$t_c = t_o + t_f$
 where t_o = Inlet Time = 1.481 min
 t_f = Flow Time = $\frac{\text{Pipe Length}}{\text{Flow Velocity}}$

$V = \frac{R^{2/3} s^{1/2}}{n}$ for Manning's Equation
 where g = Gravitational Acceleration = 9.81 m/s²
 R = Hydraulic Radius
 s = Frictional Slope
 k_s = Surface Roughness =

3.3	mm for	concrete	CO
0.06	mm for	cast iron	CI
0.6	mm for	ductile iron	DI

 Ref. DSD SDM Table 14

n = Kine. Viscosity = 1.141E-06 m²/s
 n = Manning's Coef. =

0.016	for	concrete	CO
0.015	for	cast iron	CI
0.015	for	ductile iron	DI

 Ref. DSD SDM Table 13

$Q_o = (\rho D^2/4)V$

$i = \frac{a}{(t_c + b)^c}$ for Northern District Area for a return period of 50 years
 where a = 1167.6
 b = 16.76
 c = 0.561
 Ref. DSD SDM Table 3d

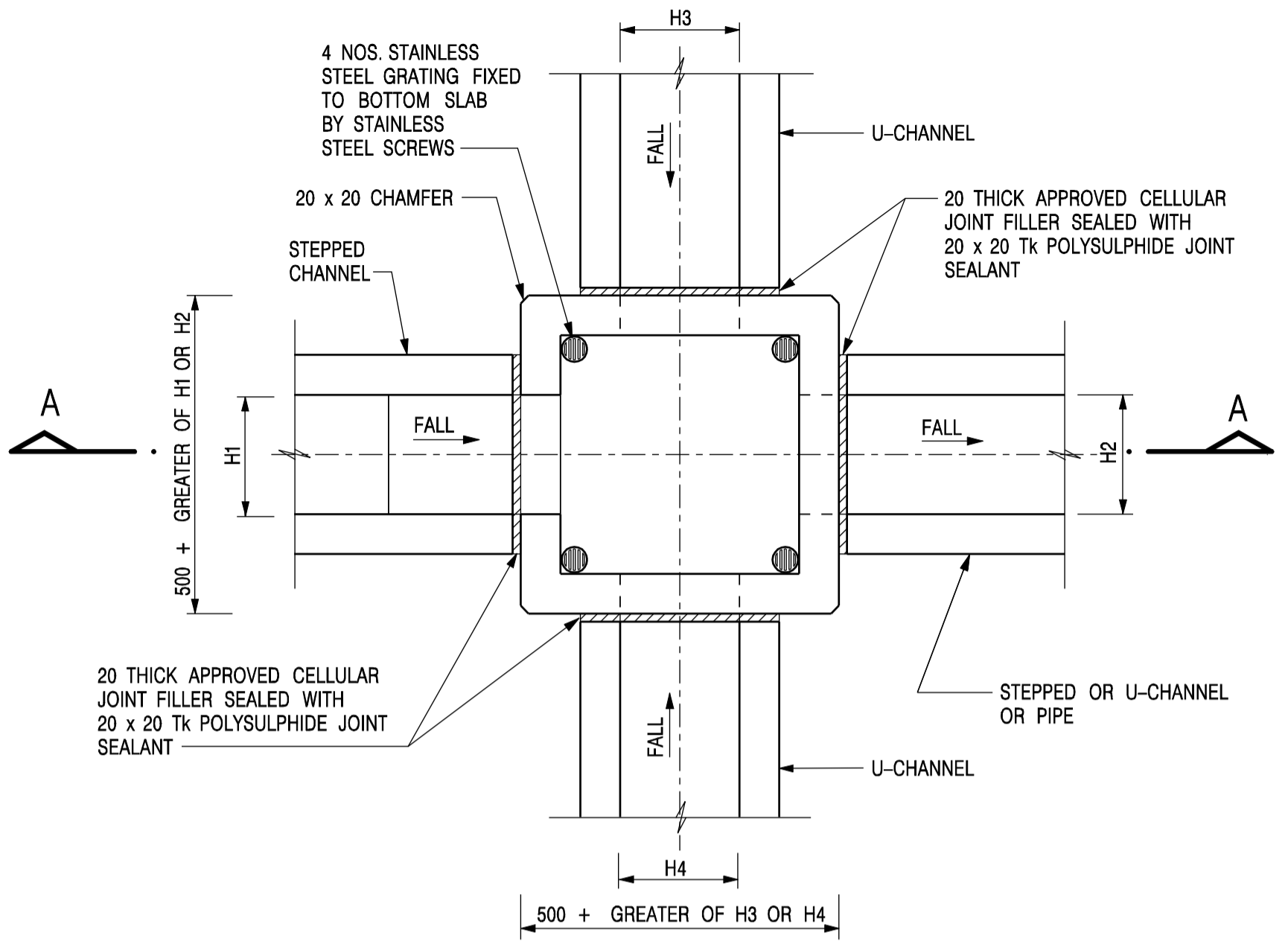
$Q = 0.278 * C_i A$
 where C = Runoff Coefficient
 A = Catchment Area

Calculation Sheet		Date:	2024-10-24
Project Title:		Project No.:	YL-PS-734
APPLICATION FOR PROPOSED TEMPORARY PUBLIC VEHICLE PARK WITH ELECTRIC VEHICLE CHARGING DEVICE FOR A PERIOD OF 3 YEARS		Designed by:	RF
AT LOTS 591(PART), 592(PART), 593(PART) AND 618(PART) IN D.D. 122, PING SHAN, YUEN LONG, NEW TERRITORIES		Appendix :	E
		Sheet No.:	2

Checking for Pipe Connecting to Existing Village Drain

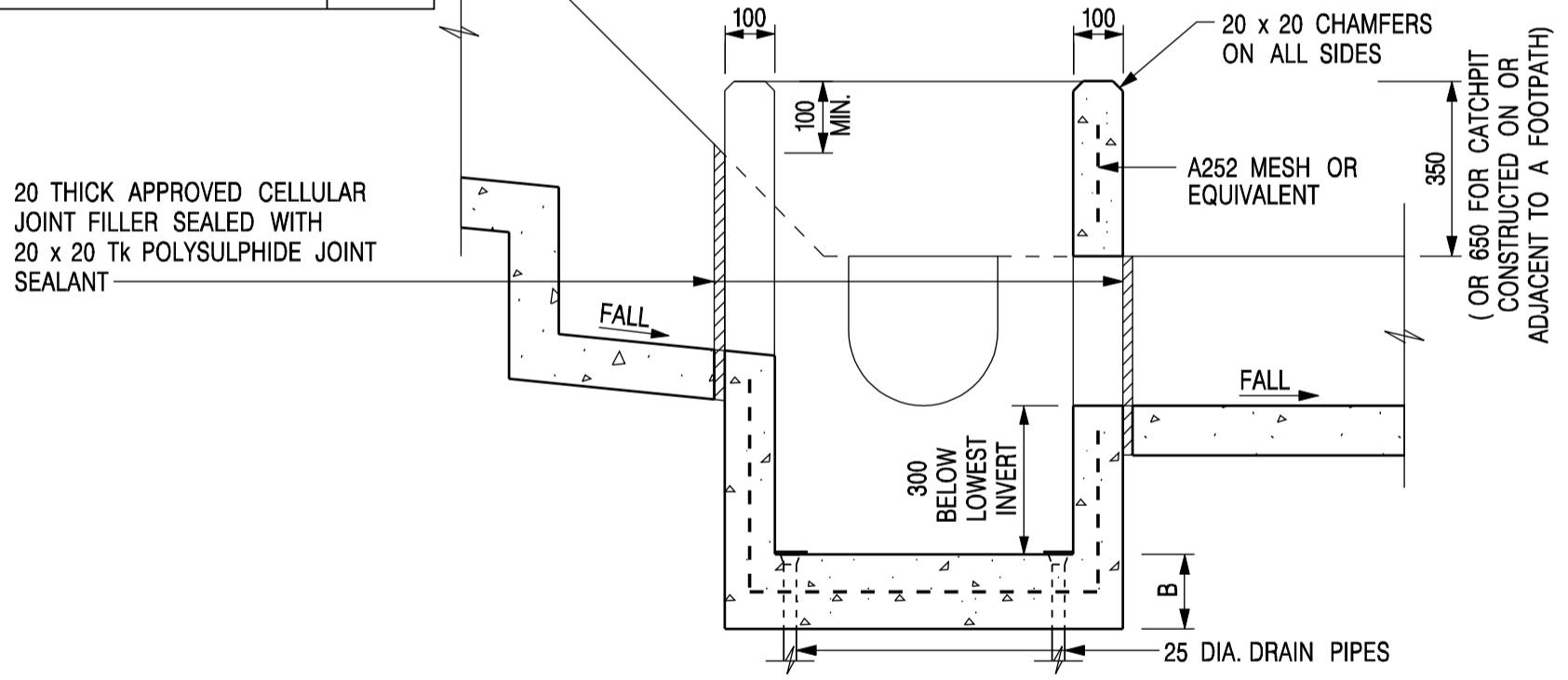
Catchpit		Catchment			U/S I.L. (mPD)	D/S I.L. (mPD)	Pipe				Manning's Equation						Capacity Check	
From (U/S)	To (D/S)	Incr. Area (m ²)	Accum. Area (m ²)	Runoff Coef. C			Mat-erial	Dia. (mm)	Lgth (m)	Grad. (1 in)	Mng's Coef. n	Pipe Flow		Time of Conc. t _c (min)	Rainfall Inten-sity i (mm/hr)	Runoff Q (m ³ /s)		Runoff / Cap. (Q/Q _o)
CP3	Existing	1355	1355	1	8.830	8.230	CO	300	3	5	0.016	4.971	0.351	5.010	207	0.078	22%	OK
CP5	Existing	1615	1615	1	8.750	8.150	CO	300	3	5	0.016	4.971	0.351	5.010	207	0.093	26%	OK

APPENDIX F



PLAN

NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4)	B
300 - 600	150
675 - 900	175



SECTION A - A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 2 FOR OTHER NOTES.

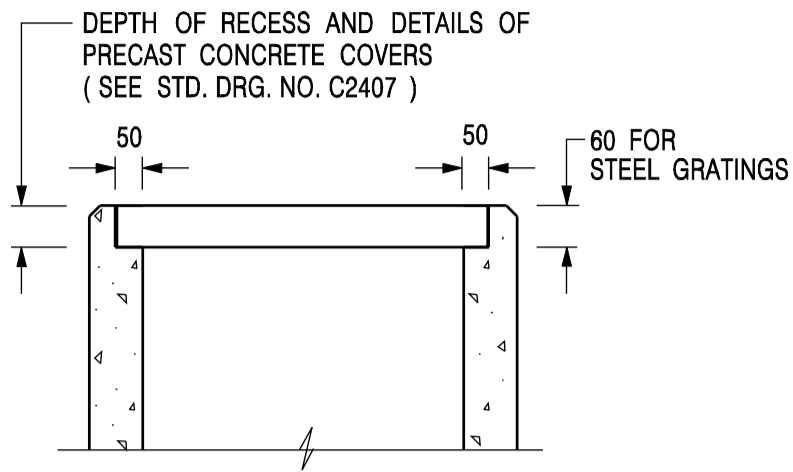
-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20
DATE JAN 1991

DRAWING NO.
C2406 / 1



ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. UNLESS REQUESTED BY THE MAINTENANCE PARTY AND AS DIRECTED BY THE ENGINEER, CATCHPIT WITH TRAP IS NORMALLY NOT PREFERRED DUE TO PONDING PROBLEM.
7. UPON THE REQUEST FROM MAINTENANCE PARTY, DRAIN PIPES AT CATCHPIT BASE CAN BE USED BUT THIS IS FOR CATCHPITS LOCATED AT SLOPE TOE ONLY AND AS DIRECTED BY THE ENGINEER.
8. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAIL 'A' ON STD. DRG. NO. C2405 /2) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
9. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON STD. DRG. NO. C2405 /5; EXCEPT ON THE UPSLOPE SIDE) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
10. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS (SEE DSD STD. DRG. NO. DS1043) AT 300 c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
11. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON STD. DRG. NO. C2405 /4.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

A	MINOR AMENDMENT.	Original Signed	04.2016
-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

CATCHPIT WITH TRAP
(SHEET 2 OF 2)



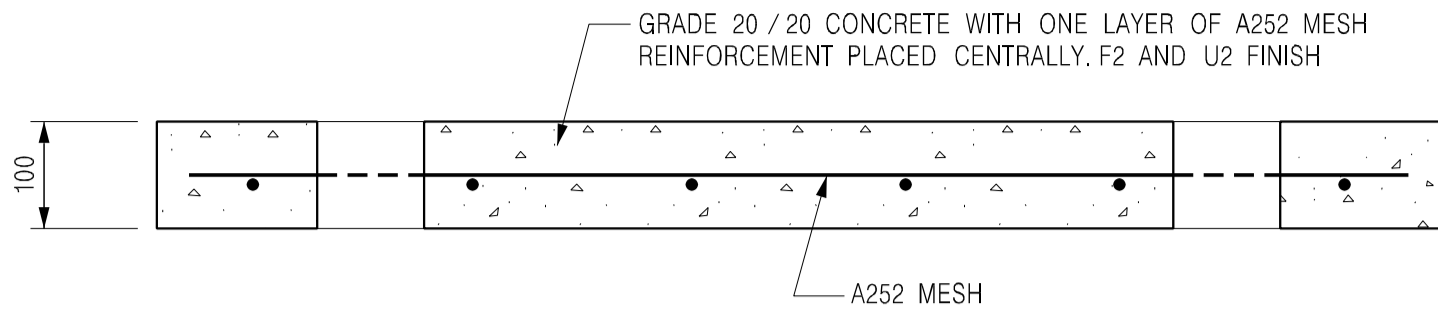
**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

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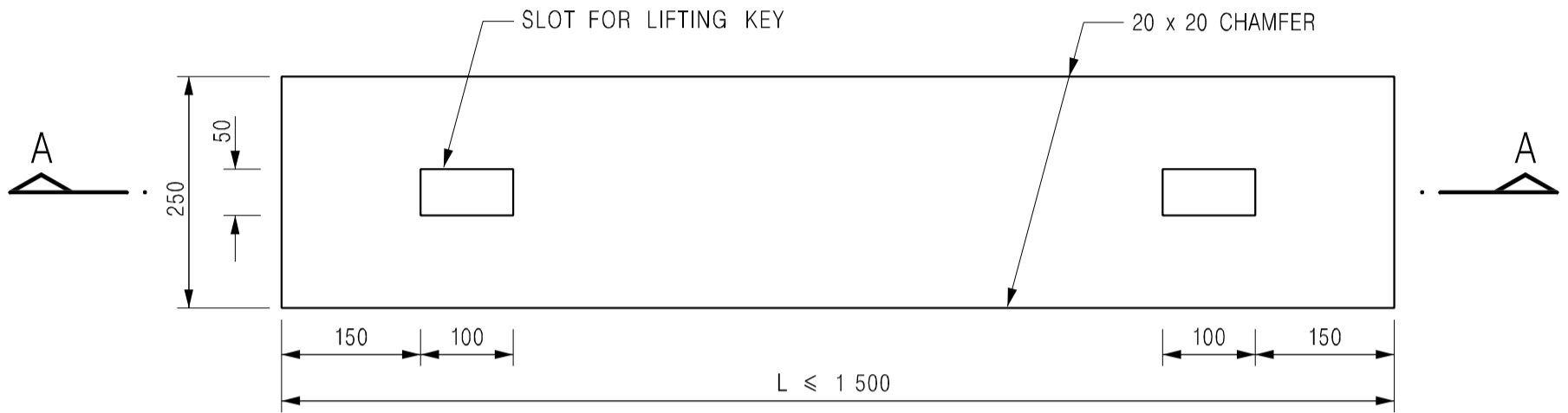
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DATE JAN 1991

C2406 /2A

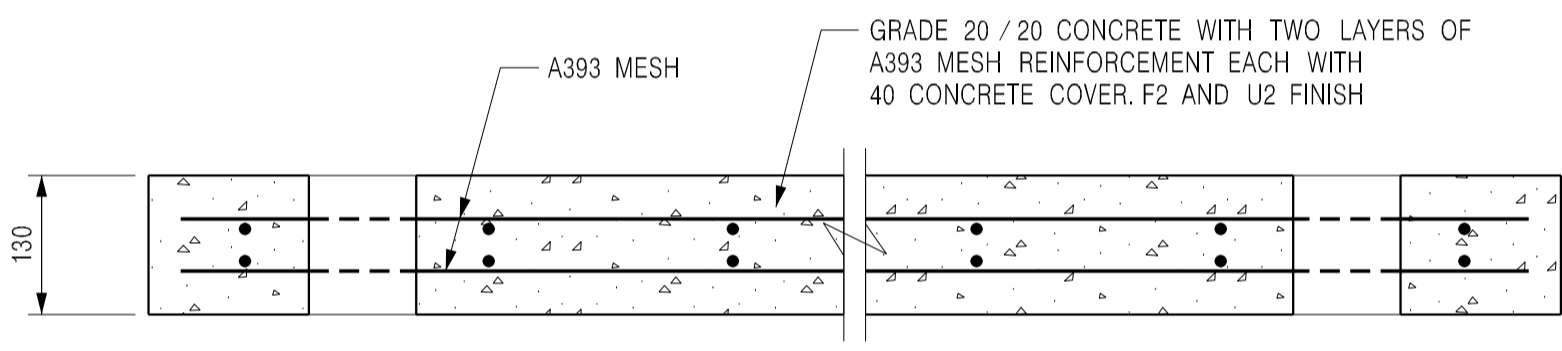


SECTION A - A

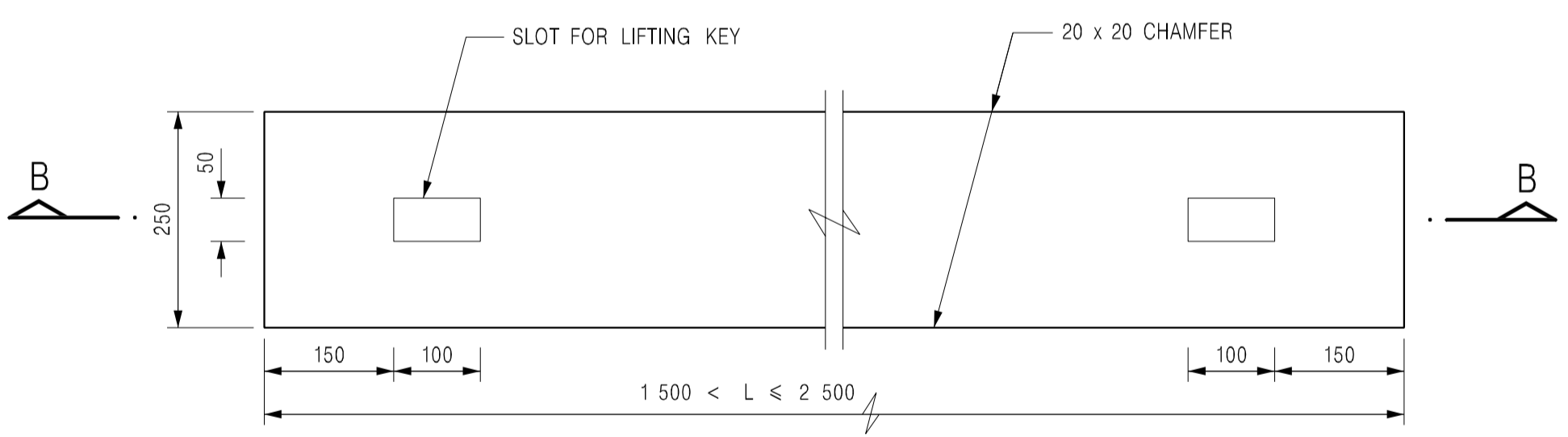


PLAN

TYPE 1 - FOR SPAN UP TO 1.5 m



SECTION B - B



PLAN

TYPE 2 - FOR SPANS 1.5 m TO 2.5 m

NOTES:

- 1. ALL DIMENSIONS ARE IN MILLIMETRES.
- 2. ALL EXTERNAL EDGES OF THE COVERS SHALL BE 20mm CHAMFERED.

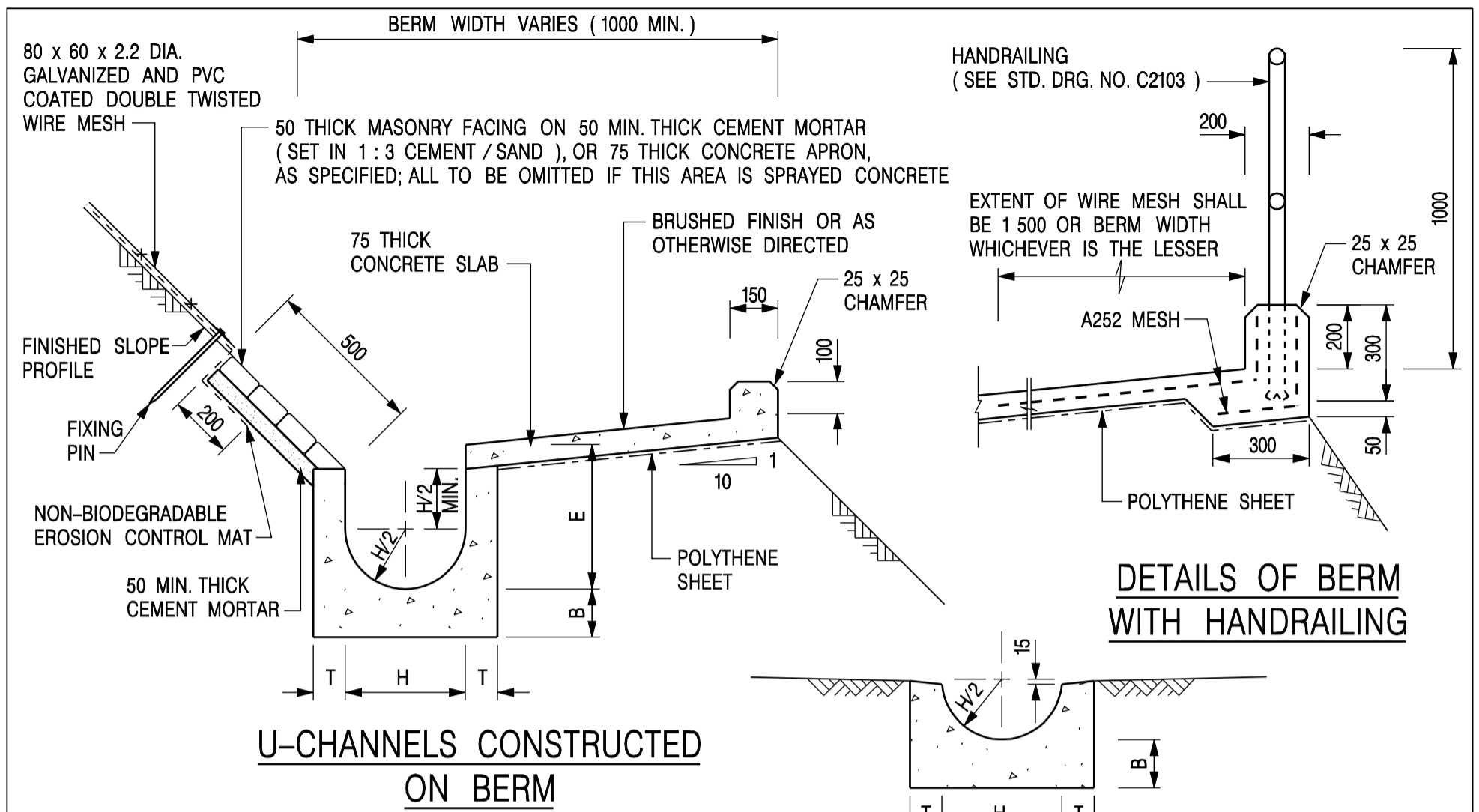
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	GENERAL REVISION	Original Signed	12.2002
REF.	REVISION	SIGNATURE	DATE

**PRECAST CONCRETE COVERS
FOR CATCHPIT AND SAND TRAP**

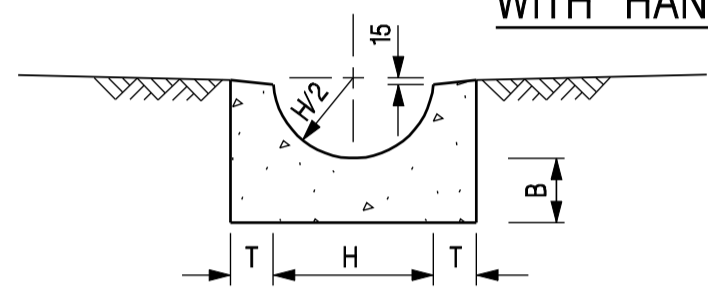
**CEDD CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 10
DATE JAN 1991

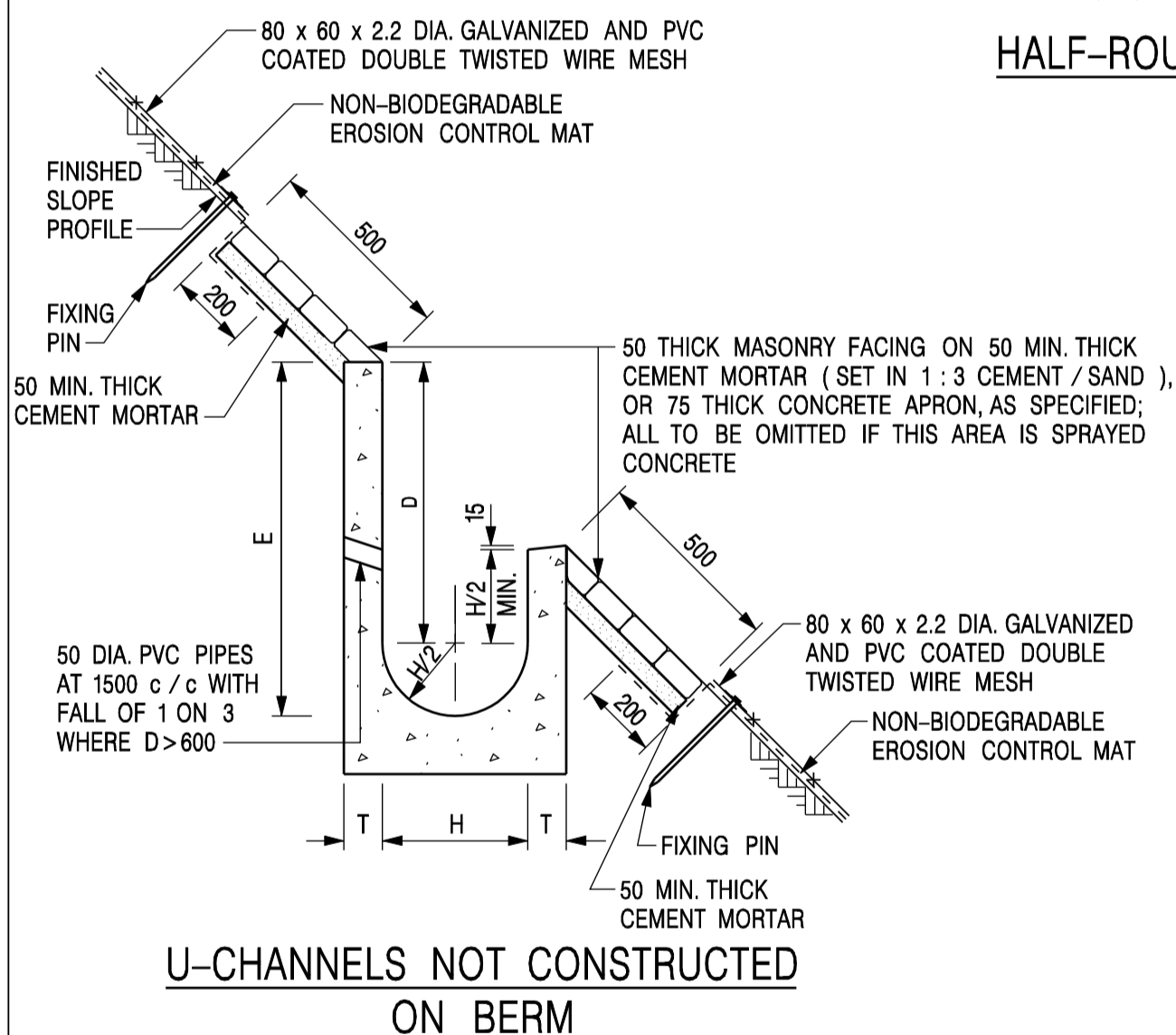
**DRAWING NO.
C2407B**



DETAILS OF BERM WITH HANDRAILING



HALF-ROUND CHANNEL



U-CHANNELS NOT CONSTRUCTED ON BERM

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE TO BE GRADE 20 / 20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
4. SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
5. JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
6. FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
7. BIODEGRADABLE EROSION CONTROL MAT IF REQUIRED, SEE STD. DRG. NO. C2511/E.
8. CONCRETE TO BE COLOURED AS SPECIFIED.
9. CONCRETE U-CHANNEL CAN BE CAST IN-SITU OR PRECAST CONCRETE SUBJECT TO THE ENGINEER'S AGREEMENT ON THE DETAILS.
10. DETAILS OF EROSION CONTROL MAT AND WESH MESH ON BERM. (SEE STD DRG. NO. C2511/E)

NOMINAL SIZE H	T	B	REINFORCEMENT
300	80	100	A252 MESH PLACED CENTRALLY AND T=100 WHEN E > 650
375 - 600	100	150	
675 - 900	125	175	A252 MESH PLACED CENTRALLY

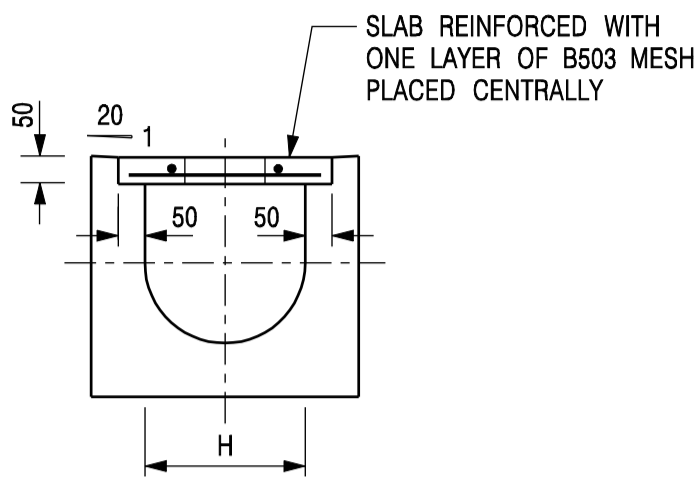
REF.	REVISION	SIGNATURE	DATE
I	MINOR AMENDMENT.	Original Signed	07.2018
H	THICKNESS OF MASONRY FACING AMENDED.	Original Signed	01.2005
G	MINOR AMENDMENT.	Original Signed	01.2004
F	GENERAL REVISION.	Original Signed	12.2002
E	DRAWING TITLE AMENDED.	Original Signed	11.2001
D	MINOR AMENDMENT.	Original Signed	08.2001
C	150 x 100 UPSTAND ADDED AT BERM.	Original Signed	6.99
B	MINOR AMENDMENTS.	Original Signed	3.94

DETAILS OF HALF-ROUND AND U-CHANNELS (TYPE A - WITH MASONRY APRON)

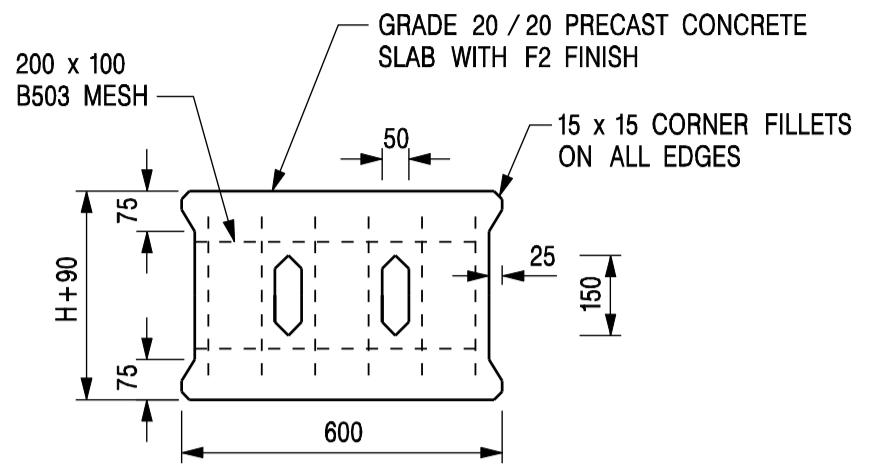
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 25 **DRAWING NO.** C24091

DATE JAN 1991



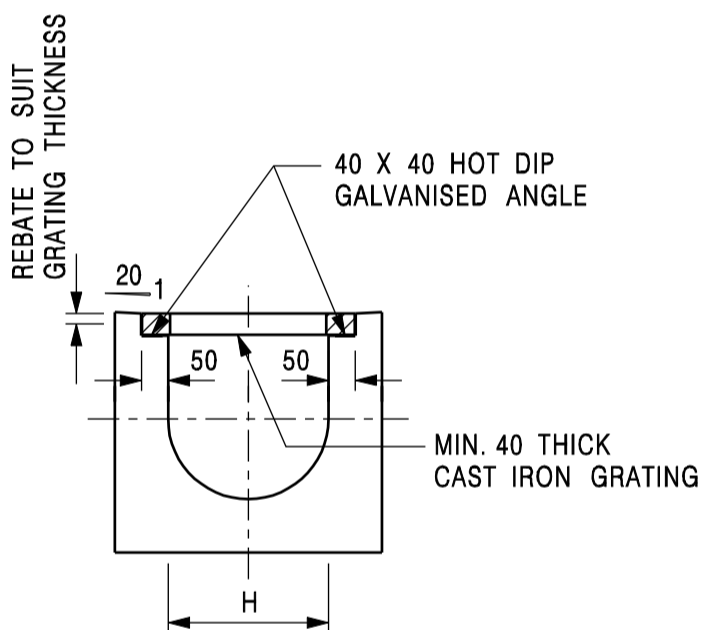
TYPICAL SECTION



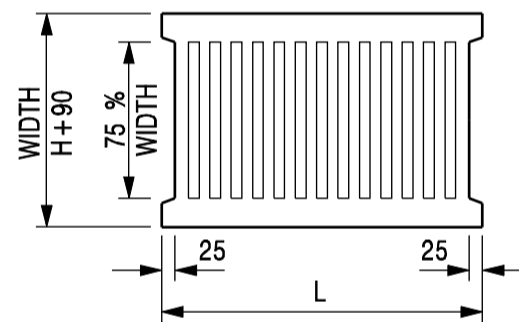
PLAN OF SLAB

U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)



TYPICAL SECTION



L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

CAST IRON GRATING

(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)

U-CHANNEL WITH CAST IRON GRATING

(UP TO H OF 525)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. H=NOMINAL CHANNEL SIZE.
3. ALL CAST IRON FOR GRATINGS SHALL BE GRADE EN-GJL-150 COMPLYING WITH BS EN 1561.
4. FOR COVERED CHANNELS TO BE HANDED OVER TO HIGHWAYS DEPARTMENT FOR MAINTENANCE, THE GRATING DETAILS SHALL FOLLOW THOSE AS SHOWN ON HyD STD. DRG. NO. H3156.

E	NOTES 3 & 4 AMENDED.	Original Signed	12.2014
D	NOTE 4 ADDED.	Original Signed	06.2008
C	MINOR AMENDMENT. NOTE 3 ADDED.	Original Signed	12.2005
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	CAST IRON GRATING AMENDED.	Original Signed	12.2002
REF.	REVISION	SIGNATURE	DATE

COVER SLAB AND CAST IRON GRATING FOR CHANNELS



CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DRAWING NO.

DATE JAN 1991

C2412E